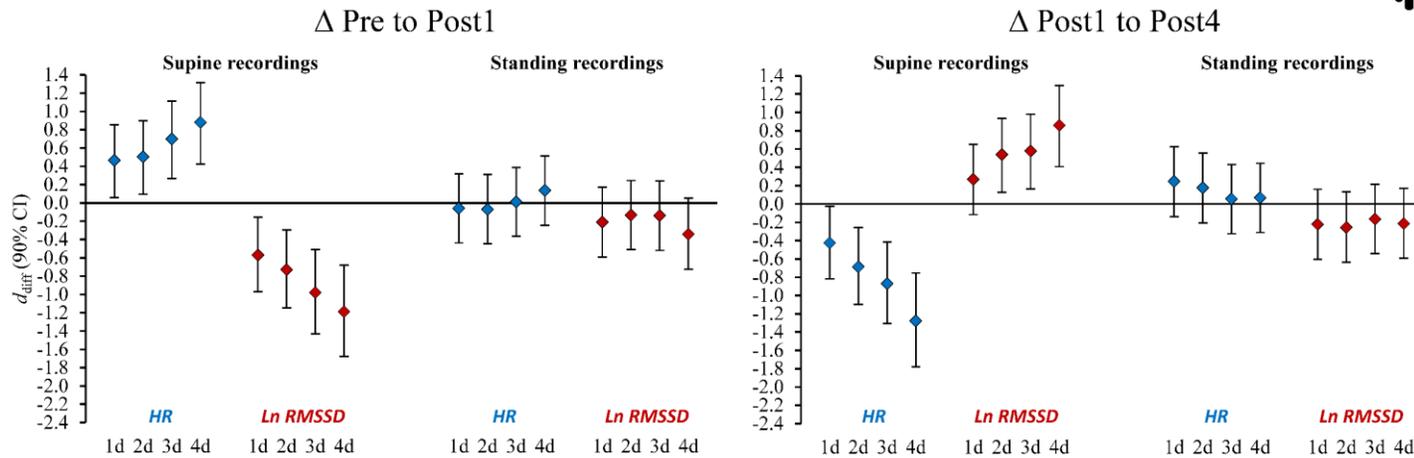
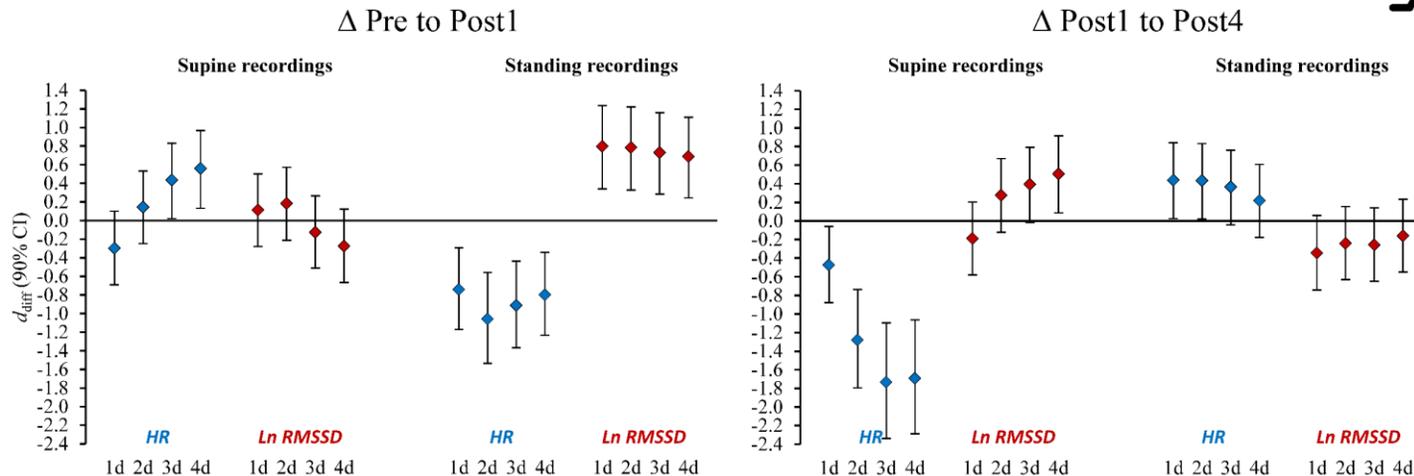
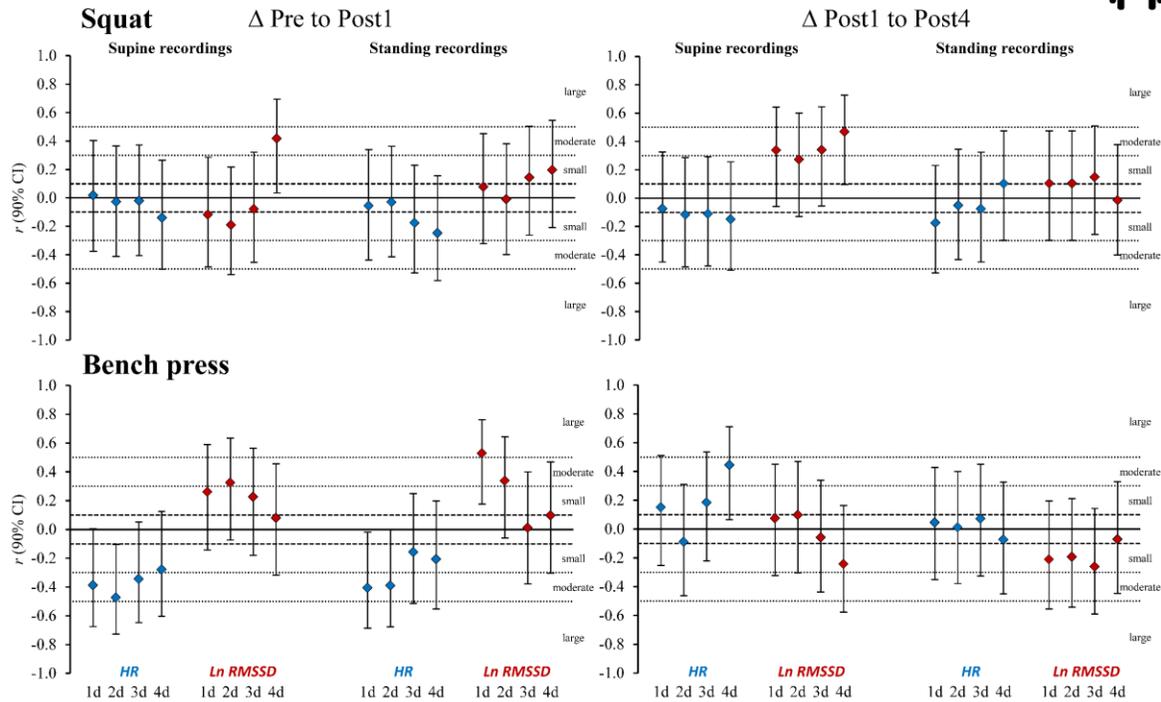


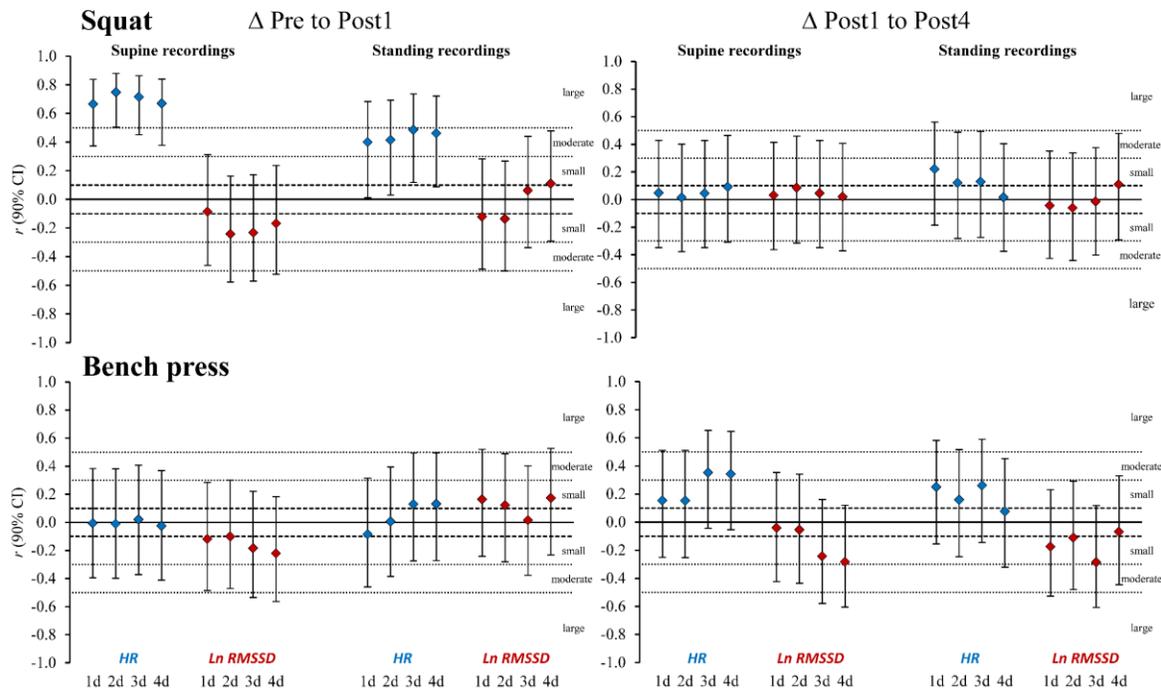
A Strength training

B High-intensity interval training


Supplementary Figure 1 | Standardized mean differences (d_{diff}) for changes in heart rate (variability) measures from Pre to Post1 and from Post1 to Post4. HR(V) measures are provided as single-day values and 2–4-day rolling averages. HR: heart rate, Ln RMSSD: natural logarithm of root mean square of successive differences between adjacent beat to beat intervals.

A One repetition maximum

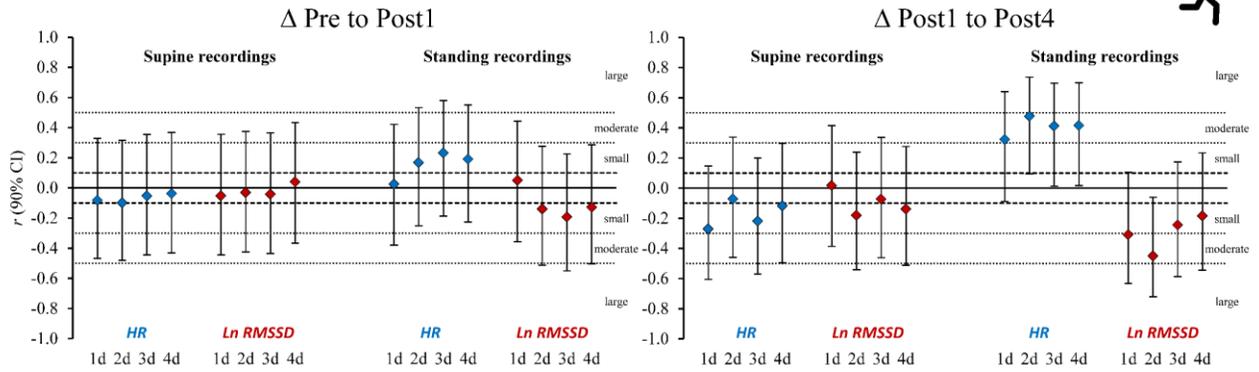


B Maximum voluntary isometric contraction

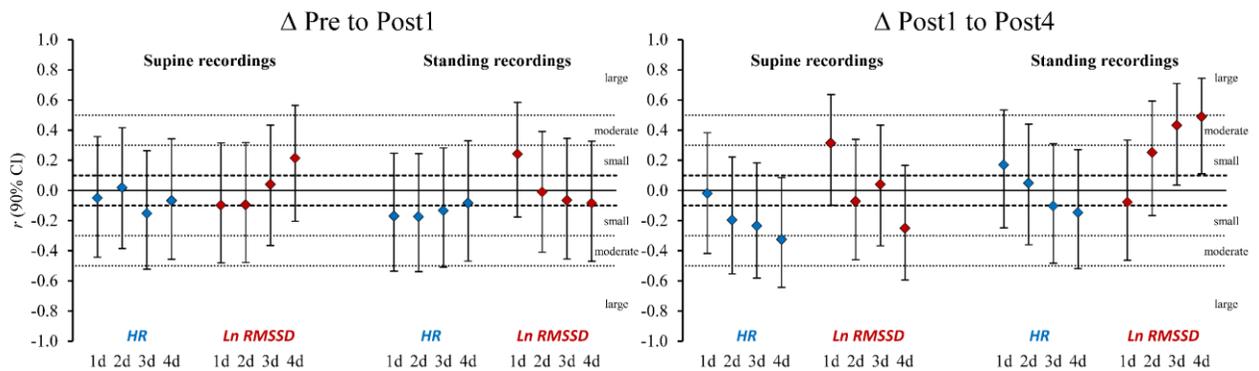


Supplementary Figure 2 | Correlations between performance and heart rate (variability) measures for percentage changes from Pre to Post1 and from Post 1 to Post4 for the strength training group. HR(V) measures are provided as single-day values and 2–4-day rolling averages. HR: heart rate, Ln RMSSD: natural logarithm of root mean square of successive differences between adjacent beat to beat intervals.

A Repeated sprint ability

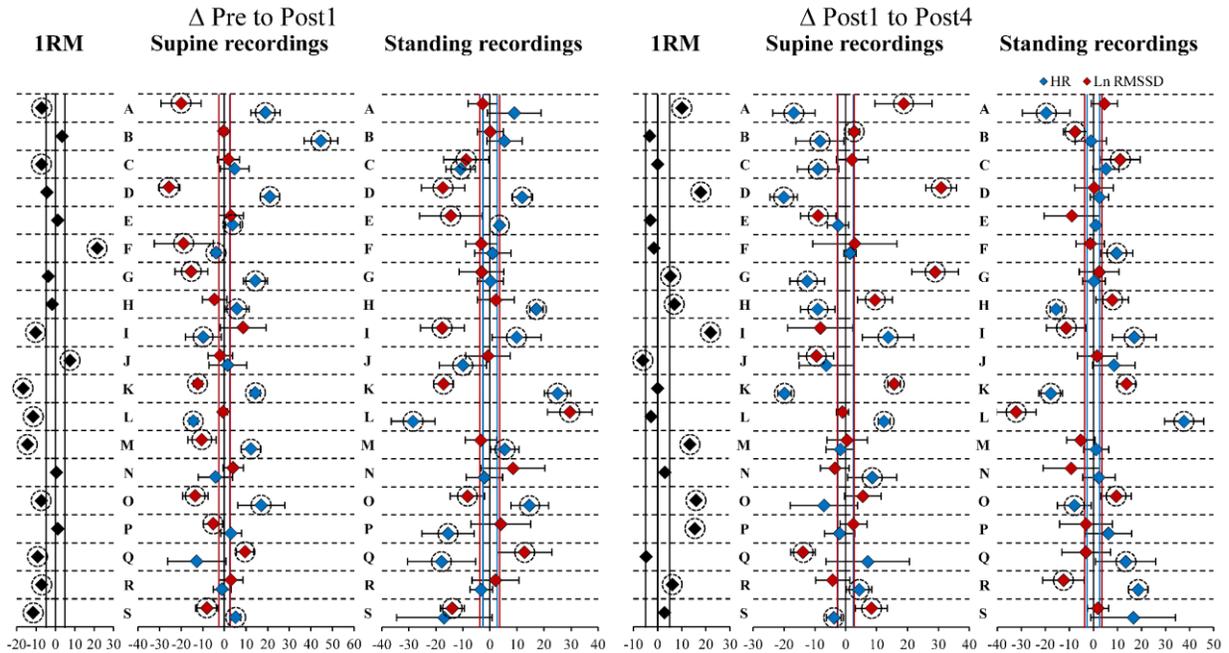


B 30-15 Intermittent Fitness Test

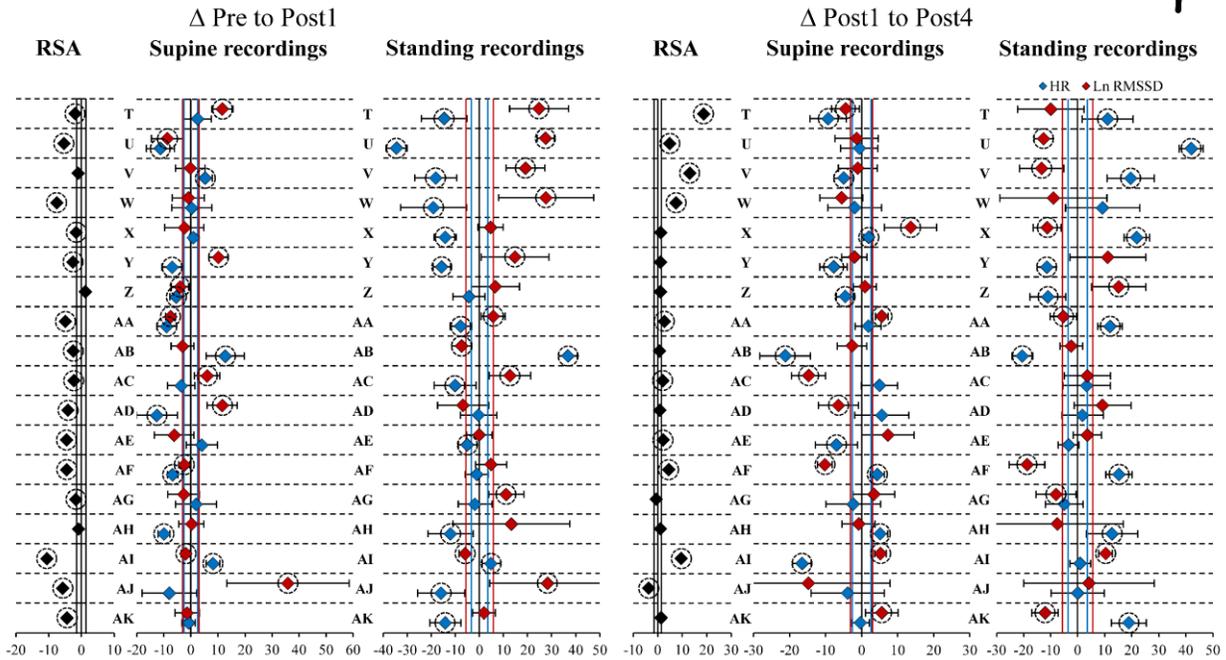


Supplementary Figure 3 | Correlations between performance and heart rate (variability) measures for percentage changes from Pre to Post1 and from Post 1 to Post4 for the high-intensity interval training group. HR(V) measures are provided as single-day values and 2–4-day rolling averages. HR: heart rate, Ln RMSSD: natural logarithm of root mean square of successive differences between adjacent beat to beat intervals.

A Strength training

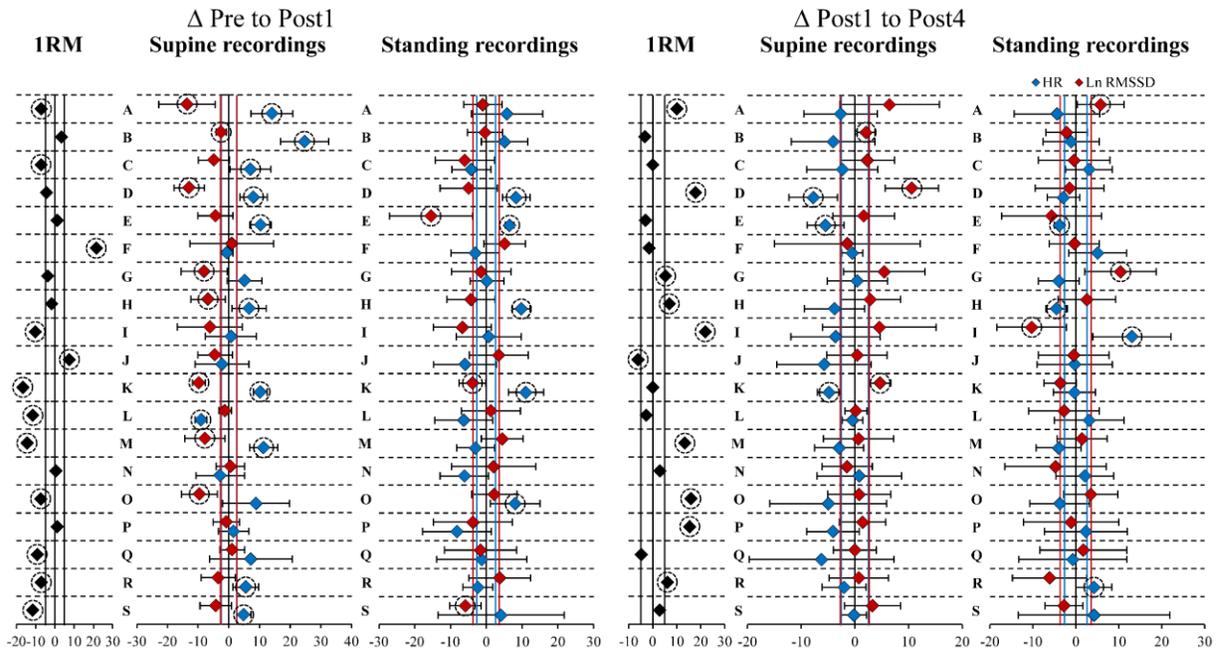


B High-intensity interval training

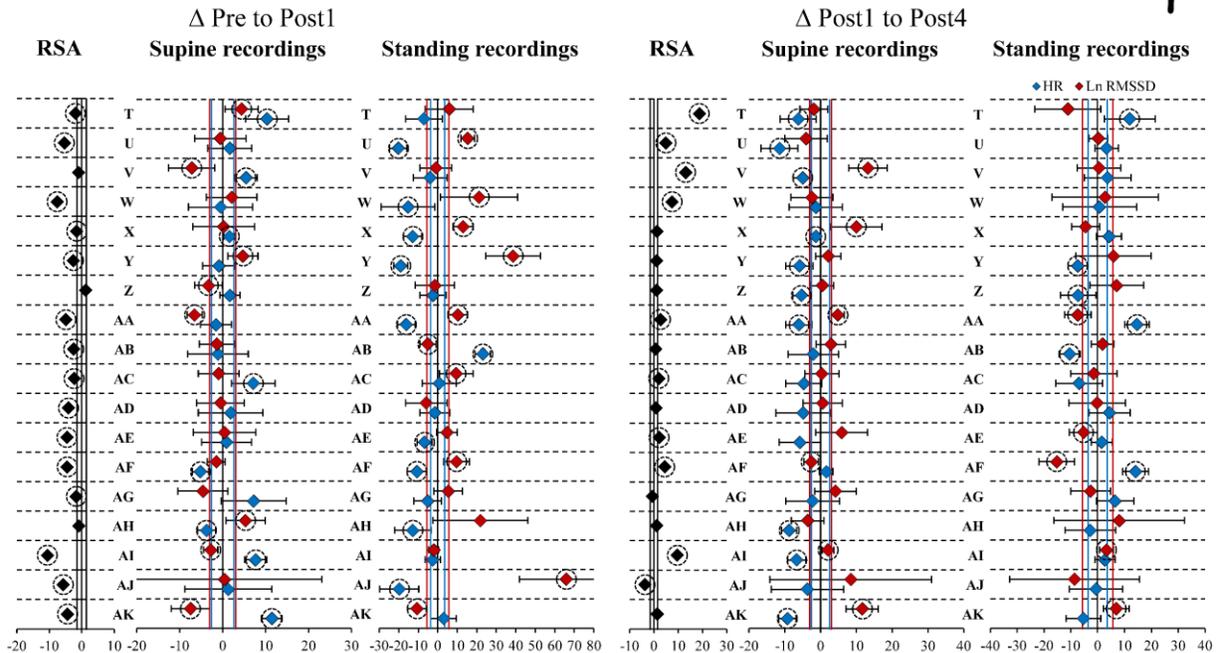


Supplementary Figure 4 | Individual responses as percentage changes in criterion performance and single-day HR(V) measures. 1RM: one repetition maximum, RSA: repeated sprint ability, HR: heart rate, Ln RMSSD: natural logarithm of root mean square of successive differences between adjacent beat to beat intervals. Vertical lines: group-based typical error (TE) for RSA (black), smallest worthwhile change (see Table 3) in HR (blue), and Ln RMSSD (red). Error bars: individual TE (4-day baseline SD). Dashed circles: changes exceed the \pm TE.

A Strength training



B High-intensity interval training



Supplementary Figure 5 | Individual responses as percentage changes in criterion performance and 4-day averaged HR(V) measures. 1RM: one repetition maximum, RSA: repeated sprint ability, HR: heart rate, Ln RMSSD: natural logarithm of root mean square of successive differences between adjacent beat to beat intervals. Vertical lines: group-based typical error (TE) for RSA (black), smallest worthwhile change (see Table 3) in HR (blue), and Ln RMSSD (red). Error bars: individual TE (4-day baseline SD). Dashed circles: changes exceed the \pm TE.